space for photo

The Bill Williams Watershed

The Santa Maria River and the Big Sandy River drainages merge at Alamo Lake to create the Bill Williams River, which connects to the Colorado River at Parker Dam. Perennial flow in this watershed is frequently interrupted (short segments), even on the larger, mainstem rivers.

Land ownership is divided approximately as: 27% private land, 28% state land, and 45% federal land (no Tribal lands). With only 8,000 people (2000 census), this watershed does not have any large population centers. Open range grazing is the principal land use. A large mining complex is located in the Bagdad area, while historic mine sites are scattered throughout the watershed.

Elevations range from 8,417 feet (above sea level) at Hualapai Peak to 1,000 feet near the Colorado River. Most of the watershed is below 5,000 feet, with low desert fauna and flora and warmwater aquatic communities where perennial waters exist.

The assessment – Assessments were completed for 16 stream reaches and one lake in this watershed. Of the 256 stream miles assessed, 32 miles (one reach) were attaining all uses and 37 miles (four reaches) were impaired. The one lake that was assessed (Alamo Lake) was found to be impaired. The perennial area of this lake is approximately 1,414 acres. All other surface waters were assessed as inconclusive or attaining some uses.

A watershed assessment map follows on the next page, illustrating stream and lake assessments by category. The Bill Williams **monitoring table (Table 5)** following the map summarizes the water quality data used in the assessment. It is followed by the **assessment table (Table 6)**, which bridges current assessments with past assessments and impaired water identification. Important to note in this table are comments regarding previous 303(d) lists (what has been added and removed), category designations (1 through 5), references to potential actions by EPA, and status of TMDLs.

More detailed information on how to use these tables can be found at the beginning of this chapter (p. IV-1). Information about assessment methods and criteria can be found in Chapter III.

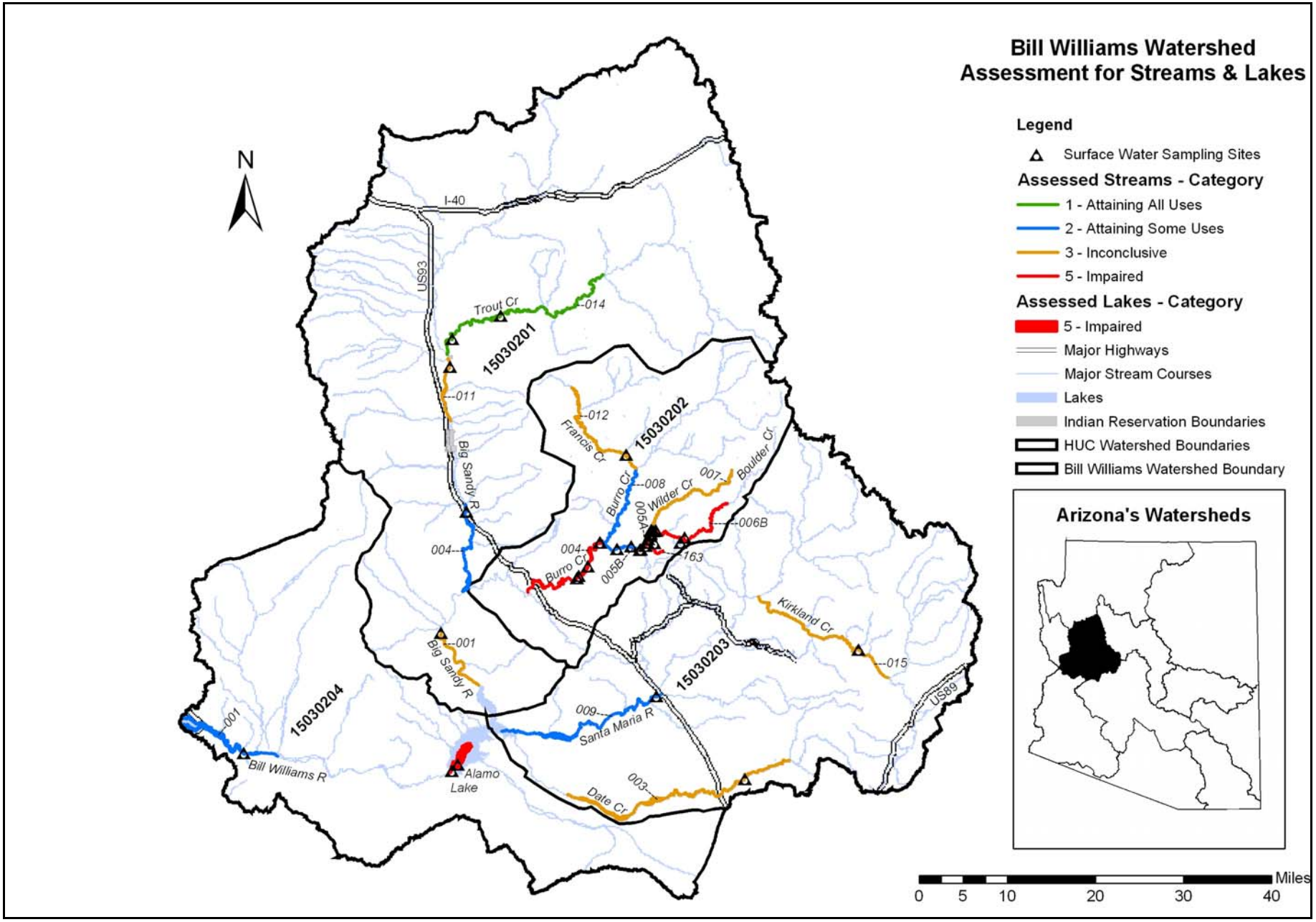

Figure 15. Watershed monitoring and assessments

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
STREAMS MONITORING DATA								
Big Sandy River Deluge Wash - Tule Wash AZ15030201-011 A&Ww, FBC, FC, AgL	ADEQ Ambient Monitoring Below Cane Springs BWBSR041.02 100458	1998 - 1 partial suite 1999 - 3 partial suites	Turbidity (former standard) NTU	50 (A&Ww)	7 - 66	1 of 4		
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC inconclusive** **AgL Inconclusive**	**1998 -1999** **4 sample events**	**Turbidity (former standard) NTU**	**50 (A&Ww)**	**7 - 66**	**1 of 4**	**Inconclusive (see comment)**	**ADEQ collected 4 samples in 1998-1999. Assessed as "inconclusive" and placed on the Planning List due to missing core parameters (see list below) and one exceedance of the former turbidity standard. Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.** **Missing core parameters: *Escherichia coli,* dissolved metals (cadmium, copper, and zinc), and total metals (copper, lead, and mercury).**
Big Sandy River Sycamore - Burro Creek AZ15030201-004 A&Ww, FC, FBC, AgL	ADEQ Fixed Station Network Below Highway 93 bridge BWBSR024.50 100400	1998 - 1 partial suite 1999 - 3 full + 2 partial suites 2000 - 4 full suites 2001 - 4 full suites 2002 - 5 full suites	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	4.9 - 8.4 (63 - 93%)	3 of 19		
			Mercury (total) µg/L	0.6 (FC)	<0.5 - 0.86	1 of 17		
			Selenium (total) µg/L	2 (A&Ww chronic)	<5 - 5.7	1 of 1		Lab reporting limits for 16 other selenium samples were too high to use results for assessment.
			Turbidity (former standard) NTU	50 (A&Ww)	3 - 80	2 of 19		
	Summary Row **A&Ww Inconclusive** **FC Attaining** **FBC Attaining** **AgL Attaining**	**1998-2002** **19 sampling events**	**Dissolved oxygen mg/L**	**6.0 (90% saturation) (A&Ww)**	**4.9 - 8.4 (63 - 93%)**	**3 of 19**	**Attaining**	**ADEQ collected 19 samples in 1998-2002. Assessed as "attaining some uses" and placed on the Planning List due to selenium exceedance.**
			Mercury (total) µg/L	**0.6 (FC)**	**<0.5 - 0.86**	**1 of 17**	**Attaining**	
			Selenium (total) µg/L	**2 (A&Ww chronic)**	**<5 - 5.7**	**1 of 1 event**	**Inconclusive**	
			Turbidity (former standard) NTU	**50 (A&Ww)**	**3 - 80**	**2 of 19**	**Attaining**	

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
Big Sandy River Rupley - Alamo Lake North AZ15030201-001 A&Ww, FC, FBC, AgL	ADEQ Ambient Monitoring Near Signal BWBSR011.20 100457	1998 - 1 field 1999 - 4 field 2002 - 2 full suites	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	5.2 - 8.4 (62 - 110%)	2 of 7		
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC inconclusive** **AgL Inconclusive**	**1998-2002** **7 sampling events**	**Dissolved oxygen mg/L**	**> 6.0 (90% saturation) (A&Ww)**	**5.2 - 8.4 (62 - 110%)**	**2 of 7**	**Inconclusive**	**ADEQ collected 7 samples in 1998-2002. Assessed as "Inconclusive" and placed on the Planning List due to low dissolved oxygen and missing core parameters: *Escherichia coli*, dissolved metals (copper, cadmium, and zinc), and total metals (mercury, copper, and lead).**
Bill Williams River Point B - Colorado River AZ15030204-001 A&Ww, FC, FBC, AgL	USGS Fixed Station #09426600 At Mineral Wash near Planet BWBWR005.88 100924	1998 - 2 partial suites 1999 - 2 partial suites 2000 - 2 partial suites 2001 - 2 partial suites 2002 - 3 partial suites	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	5.3 - 7.5 (49 - 95% saturation)	1 of 11		
			Turbidity (former standard) NTU	50 (A&Ww)	1 - 69	1 of 8		
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC Attaining** **AgL Inconclusive**	**1998 -2002** **11 sampling events**	**Dissolved oxygen mg/L**	**> 6.0 (90% saturation) (A&Ww)**	**5.3 - 7.5 (49 - 95%)**	**1 of 11**	**Attaining**	**USGS collected 11 samples in 1998-2000. Assessed as "attaining some uses" and placed on the Planning List due to exceedance of the former turbidity standard. Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.** **Also on the Planning List due to missing core parameters: total metals (mercury, copper, and lead).**
			Turbidity (former standard) NTU	**50 (A&Ww)**	**1 - 69**	**1 of 8**	**Inconclusive**	
Boulder Creek unnamed wash at 34E41'14"/113E18'00" - Wilder Creek AZ15030202-006B A&Ww, FC, FBC, AgI, AgL	Phelps Dodge Bagdad Mine Instream Monitoring Below Tungstona Mine Below Warm Spring Creek Tungstona - 1 BWBOU006.27	1998 - 4 field, metals 1999 - 1 metals 2000 - 3 metals 2001 - 4 metals 2002 - 1 metals	No exceedances					
	Phelps Dodge Bagdad Mine Instream Monitoring At road to Tungstona Mine Tungstona - 2 BWBOU005.86	1998 - 4 field, metals 1999 - 1 metals 2000 - 4 metals 2001 - 4 metals 2002 - 4 metals	Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 3.4	4 of 4		Lab reporting limits for 13 other mercury samples were too high to use results for assessment.
				2.4 (A&Ww acute)	<0.2 - 3.4	1 of 17		
				0.6 (FC - total)	<0.2 - 3.4	1 of 4		Dissolved mercury data compared to total mercury standards.
	Phelps Dodge Bagdad Mine Instream Monitoring Above Hillside Mine Hillside - 2 BWBOU004.30	1998 - 4 field, metals 1999 - 2 metals 2000 - 3 metals 2001 - 4 metals 2002 - 4 metals	Copper (dissolved) µg/L	varies by hardness (A&Ww acute)	<10 - 10	1 of 16		
				varies by hardness (A&Ww chronic)	<10 - 10	1 of 12		Lab reporting limits for 4 other copper samples were too high to use results for assessment.

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
			Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 2.9	2 of 2		Lab reporting limits for 11 other mercury samples were too high to use results for assessment.
				2.4 (A&Ww acute)	<0.2 - 2.9	1 of 4		
				0.6 (FC - total)	<0.2 - 2.9	1 of 16		Dissolved mercury data compared to total mercury standard.
			Zinc (dissolved) µg/L	varies by hardness (A&Ww acute)	<10 - 1900	1 of 16		
				varies by hardness (A&Ww chronic)	<10 - 1900	1 of 16		
	ADEQ TMDL Program Site N Above Wilder Creek BWBOU004.15	2000 - 1 partial suite 2001 - 6 partial suites	No exceedances					
	Summary Row **A&Ww Impaired** **FC Attaining** **FBC Inconclusive** **AgI Inconclusive** **AgL Attaining**	**1998 - 2002** **54 samples** **24 sampling events**	**Copper (dissolved) µg/L**	**varies by hardness (A&Ww acute)**	**<10 - 10**	**1 of 18 events (in 2001)**	**Inconclusive**	**Phelps Dodge and ADEQ collected 54 samples at 4 sites in 1998 - 2002. Assessed as "impaired" due to mercury.** **Placed on the Planning List due to copper and zinc exceedances and missing core parameters: total boron and *Escherichia coli*.**
				varies by hardness (A&Ww chronic)	**<10 - 10**	**1 of 19 events**	**Inconclusive**	
			Mercury (dissolved) µg/L	**0.01 (A&Ww chronic)**	**<0.2 - 3.4**	**6 of 6 samples 5 of 5 events**	**Impaired**	
				2.4 (A&Ww acute)	**<0.2 - 3.4**	**1 of 17 events (in 2002)**	**Inconclusive**	
				0.6 (FC - total)	**<0.2 - 3.4**	**2 of 9**	**Inconclusive**	
			Zinc (dissolved) µg/L	**varies by hardness (A&Ww acute)**	**<10 - 1900**	**1 of 19 events (OK last 4 years)**	**Attaining**	
				varies by hardness (A&Ww chronic)	**<10 - 1900**	**1 of 19 events**	**Inconclusive**	

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
Boulder Creek Wilder Creek - Copper Creek AZ15030202-005A A&Ww, FC, FBC, AgI, AgL	ADEQ TMDL Program Site L Below Wilder Creek BWBOU004.10	2001 - 1 field, metals 2002 - 2 field, metals	No exceedances					
	ADEQ TMDL Program Site JJ At upstream Hillside Mine tailings BWBOU003.90	2002 - 4 field, metals	Arsenic (total) µg/L	50 (FBC)	14 - 58	1 of 4		
			Copper (total) µg/L	500 (AgL)	<15 - 15,200	1 of 4		
			Copper (dissolved) µg/L	varies by hardness (A&Ww chronic)	<15 - 14,400	2 of 2		Lab reporting limits for 2 other copper samples were higher than the chronic standard.
				varies by hardness (A&Ww acute)	<15 - 14,400	2 of 4		
			Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	5.5 - 8.5	1 of 3		Low dissolved oxygen due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in final assessment.
			Manganese (total) µg/L	10,000 (AgI)	30 - 23,400	1 of 4		
			Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	0.04	1 of 1		
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL) 4.5 - 9.0 (AgI)	3.7 - 8.1	1 of 4		
			Zinc (total) µg/L	10,000 (AgI)	100 - 129,000	1 of 3		
			Zinc (dissolved) µg/L	varies by hardness (A&Ww acute)	60 - 115,000	2 of 4		
				varies by hardness (A&Ww chronic)	60 - 115,000	2 of 4		
	ADEQ TMDL Program Site J Above Hillside Mine BWBOU003.81	2001 - 1 field, metals 2002 - 5 field, metals	Lead (total) µg/L	15 (FBC)	<5 - 17	1 of 6		
	ADEQ TMDL Program Site H Below Hillside Mine BWBOU003.72	2001 - 1 field, metals 2002 - 12 field, metals	Arsenic (total) µg/L	50 (FBC)	<5 - 287	9 of 13		
				200 (AgL)	<5 - 287	4 of 13		

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
			Copper (dissolved) µg/L	varies by hardness (A&Ww chronic)	<15 - 80	1 of 10		Lab reporting limits for 3 other samples were too high to use results for assessment.
				varies by hardness (A&Ww acute)	<15 - 80	1 of 13		
			Manganese (total) µg/L	10,000 (AgI)	40 - 11,800	2 of 13		
	ADEQ TMDL Program Site G Above Butte Creek and below lower tailings piles BWBOU003.42	2001 - 1 field, metals 2002 - 6 field, metals	Arsenic (total) µg/L	50 (FBC)	<5 - 74	4 of 7		
	Phelps Dodge Bagdad Mine Instream Monitoring Below Hillside Mine Hillside - 1 BWBOU003.31	1998 - 4 field, metals 1999 - 1 metals 2000 - 4 metals 2001 - 4 metals 2002 - 4 metals	Arsenic (dissolved) µg/L	50 (FBC - total)	15 - 400	9 of 9		Dissolved arsenic data compared to total arsenic standards.
				200 (AgL - total)	15 -400	3 of 6		
				190 (A&Ww chronic)	15 - 400	4 of 17		
			Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 3.8	2 of 2 (1 at detection limit)		Lab reporting limits for 15 other samples were too high to use results for assessment.
				2.4 (A&Ww acute)	<0.2 - 3.8	1 of 17		
				0.6 (FC - total)	<0.2 - 3.8	1 of 4		Dissolved mercury data compared to total mercury standard.
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgI, AgL)	7.5 - 9.5	1 of 17		
			Selenium (total) µg/L	2 (A&Ww)	<1 - 4	1 of 4		
	ADEQ TMDL Program Site E Below Butte Creek BWBOU003.15	2001 - 1 field, metals 2002 - 5 field, metals	Arsenic (total) µg/L	50 (FBC)	11 - 76	3 of 6		
	Phelps Dodge Bagdad Mine Instream Monitoring Above Copper Creek Boulder - 2 BWBOU002.78	1998 - 4 field, metals 1999 - 1 metals 2000 - 3 metals 2001 - 3 metals 2002 - 2 metals	Arsenic (total) µg/L	50 (FBC)	45 - 53	1 of 2		

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
	Summary Row A&Ww Impaired FC Inconclusive FBC Impaired AgI Inconclusive AgL Impaired	1998 - 2002 70 samples 30 sampling events	Arsenic (dissolved) µg/L	190 (A&Ww chronic)	5 - 400	4 of 30 events (4 of 17 at Hillside site)	Impaired	Phelps Dodge and ADEQ collected 70 samples at 8 sites in 1998-2002. Assessed as "impaired" due to arsenic, copper, mercury, and zinc exceedances. **Note: Investigations indicate that arsenic impairs the entire reach, while copper and zinc impair the segment between Wilder Creek and Butte Creek, which is below the lower tailings pile. The extent of mercury contamination has not yet been determined.** ADEQ is in the process of developing TMDLs for arsenic, copper, and zinc and expects to submit them to EPA for approval in 2004. If TMDLs are approved before release of the final Integrated Report, this reach will be assessed as "not attaining" (Category 4A) for arsenic, copper, and zinc. On the Planning List due to selenium exceedances and missing core parameters: *Escherichia coli* and total boron.
			Arsenic (total) µg/L	50 (FBC)	<5 - 400	26 of 45	Impaired	
				200 (AgL)	<5 - 400	8 of 42	Impaired	
			Copper (dissolved) µg/L	**varies by hardness (A&Ww chronic)**	**<15 - 14,400**	**2 of 30 events**	**Impaired**	
				varies by hardness (A&Ww acute)	<15 - 14,400	2 of 30 events (in 2001)	Impaired	
			Copper (total) µg/L	500 µg/L (AgL)	<15 - 15,200	1 of 58	Attaining	
			Lead (total) µg/L	15 (FBC)	<5 - 17	1 of 13	Attaining	
			Manganese (total) µg/L	10,000 (AgI)	40 - 11,800	3 of 33	Attaining	
			Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 3.8	3 of 3 events	Impaired	
				2.4 (A&Ww acute)	<0.2 - 3.8	1 of 17 events (in 2002)	Inconclusive	
			Mercury (dissolved) µg/L	0.6 (FC - total)	<0.2 - 3.8	1 of 6	Inconclusive	
			pH SU	6.5 - 9 (A&Ww, FBC, AgL)	3.7 - 9.5	1 of 70 too low 1 of 70 too high	Attaining	
				4.5 - 9.0 (AgI)	3.7 - 9.5	1 of 70 too low 1 of 70 too high	Attaining	
			Selenium (total) µg/L	2 (A&Ww chronic)	<1 - 4	1 of 4 events	Inconclusive	
			Zinc (dissolved) µg/L	varies by hardness (A&Ww acute)	<0.01 - 115,000	2 of 30 events (in 2001)	Impaired	
				varies by hardness (A&Ww chronic)	**<0.01 - 115,000**	**2 of 30 events**	**Impaired**	
			Zinc (total) µg/L	10,000 (AgI)	<0.01 - 129,000	1 of 33	Attaining	

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
Boulder Creek Copper Creek - Burro Creek AZ15030202-005B A&Ww, FC, FBC, AgI, AgL	ADEQ TMDL Program Site B Below Copper Creek BWBOU002.70	2001 - 1 field, metals 2002 - 6 field, metals	Arsenic (total) µg/L	50 (FBC)	11 - 52	1 of 7		
	Phelps Dodge Bagdad Mine Instream Monitoring Below Copper Creek Boulder - 1 BWBOU002.68	1998 - 4 field, metals 1999 - 1 metals 2000 - 4 metals 2001 - 4 metals 2002 - 4 metals	Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 7.2	1 of 1		Lab reporting limits for 16 other dissolved mercury samples were too high to use results for assessment. Dissolved mercury data compared to total mercury standard.
				2.4 (A&Ww acute)	<0.2 - 7.2	1 of 17		
				0.6 (FC - total)	<0.2 - 7.2	1 of 8		
			Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	3.9 - 10.5	1 of 5		Low dissolved oxygen due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in final assessment.
			Lead (total) µg/L	15 (FBC)	<5 - 34	1 of 6		
	Phelps Dodge Bagdad Mine Instream Monitoring Below Copper Creek Boulder - 4 BWBOU000.95	1998 - 3 field, metals 1999 - 1 metals 2000 - 4 metals 2001 - 4 metals 2002 - 1 metals	Selenium (total) µg/L	2 (A&Ww chronic)	<1 - 3	1 of 2		
	Summary Row **A&Ww Inconclusive** **FC Attaining** **FBC Inconclusive** **AgI Inconclusive** **AgL Attaining**	**1998 - 2002** **43 samples** **24 sampling events**	**Arsenic (total) µg/L**	**50 (FBC)**	**<10 - 52**	**1 of 21**	**Attaining**	**Phelps Dodge and ADEQ collected 38 samples at 4 sites in 1998-2002. Assessed as "inconclusive" and placed on the Planning List due to mercury and selenium exceedances and missing core parameters: *Escherichia coli* and total boron.**
			Lead (total) µg/L	**15 (FBC)**	**<5 - 34**	**1 of 13**	**Attaining**	
			Mercury (dissolved) µg/L	**0.01 (A&Ww chronic)**	**<0.2 - 7.2**	**1 of 1 event**	**Inconclusive**	
				2.4 (A&Ww acute)	**<0.2 - 7.2**	**1 of 13 events (in 2002)**	**Inconclusive**	
				0.6 (FC - total)	**<0.2 - 7.2**	**1 of 14**	**Attaining**	
			Selenium (total) µg/L	**2 (A&Ww chronic)**	**<1 - 3**	**1 of 4 events**	**Inconclusive**	
Burro Creek Francis Creek - Boulder Creek AZ15030202-008 A&Ww, FC, FBC, AgL Unique Water	Phelps Dodge Bagdad Mine Instream Monitoring Above Boulder Creek Burro - 3 BWBRO0011.54	1998 - 4 field, metals 1999 - 1 metals 2000 - 4 metals 2001 - 4 metals 2002 - 4 metals	Copper (dissolved) µg/L	varies by hardness (A&Ww chronic)	<10 - 20	1 of 17		
				varies by hardness (A&Ww acute)	<10 - 20	1 of 17		
			Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 0.5	1 of 1		Lab reporting limits for 16 other mercury samples were too high to use results for assessment.

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
	Summary Row **A&Ww Inconclusive** **FC Attaining** **FBC Inconclusive** **AgL Attaining**	**1998-2002** **17 sampling events**	**Copper (dissolved) µg/L**	**varies by hardness (A&Ww chronic)**	**<10 - 20**	**1 of 17 events**	**Inconclusive**	**Phelps Dodge collected 17 samples in 1998-2002. Assessed as "attaining some uses" and placed on the Planning List due to copper and mercury exceedances and missing core parameters: dissolved oxygen and *Escherichia coli*.**
				varies by hardness (A&Ww acute)	**<10 - 20**	**1 of 17 events (in 2002)**	**Inconclusive**	
			Mercury (dissolved) µg/L	**0.01 (A&Ww chronic)**	**<0.2 - 0.5**	**1 of 1 event**	**Inconclusive**	
Burro Creek Boulder Creek - Black Canyon AZ15030202-004 A&Ww, FC, FBC, AgL	ADEQ Ambient Monitoring Below Boulder Creek BWBRO011.53 100403	1999 - 1 full suite 2000 - 3 full suites 2001 - 2 full + 1 partial suite 2002 - 3 full suites	Turbidity (former standard) NTU	50 (A&Ww)	1 - 65	1 of 9		All core parameters collected at this site.
	Phelps Dodge Bagdad Mine Instream Monitoring Below Mammoth Wash Burro 4 BWBOR009.67	1998 - 4 field, metals 1999 - 1 field, metals 2000 - 3 field, metals 2001 - 3 field, metals 2002 - 2 field, metals	No exceedances					
	Phelps Dodge Bagdad Mine Instream Monitoring At Suicide Wash Burro 2 BWBOR008.75	1998 - 4 field, metals 1999 - 1 field, metals 2000 - 4 field, metals 2001 - 4 field, metals 2002 - 3 field, metals	Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 0.8	3 of 3		Lab reporting limits for 13 other mercury samples were too high to use results for assessment. Dissolved mercury data compared to total mercury standard.
				0.6 (FC - total)	<0.2 - 0.8	2 of 9		
	ADEQ Ambient Monitoring Below 6-mile Crossing BWBRO008.56 101365	2002 - 2 full suites	No exceedances					
	Summary Row **A&Ww Impaired** **FC Attaining** **FBC Attaining** **AgL Attaining**	**1998 - 2002** **51 samples** **18 sampling events**	**Turbidity (former standard) NTU**	**50 (A&Ww)**	**1 - 65**	**1 of 19**	**Attaining**	**Phelps Dodge and ADEQ collected 51 samples in 1998-2002. Assessed as "impaired" due to mercury exceedances.**
			Mercury (dissolved) µg/L	**0.01 (A&Ww chronic)**	**<0.2 - 0.8**	**3 of 3 events**	**Impaired**	
				0.6 (FC - total)		**2 of 26**	**Attaining**	
Butte Creek headwaters - Boulder Creek AZ15030202-163 A&Ww, FBC, FC (tributary rule)	Phelps Dodge Bagdad Mine Permit Monitoring At Butte Creek Butte - 1	1998 - 4 field, metals 1999 - 1 metals 2000 - 3 metals 2001 - 2 metals 2002 - 1 metals	Mercury (dissolved) µg/L	0.01 (A&Ww chronic)	<0.2 - 1.0	2 of 2		Lab reporting limits for 5 other mercury samples were too high to use results for assessment.
			Mercury (total) µg/L	0.6 (FC)	<0.2 - 1.0	1 of 7		

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
			Selenium µg/L	2 (A&Ww chronic)	<1 - 8	1 of 4		
	Summary Row **A&Ww Impaired** **FC Inconclusive** **FBC Inconclusive**	**1998-2000** **8 sampling events**	**Mercury (dissolved) µg/L**	**0.01 (A&Ww chronic)**	**<0.2 - 1.0**	**2 of 2 events**	**Impaired**	**Phelps Dodge collected 8 samples in 1998-2000 at this site. Assessed as "impaired" due to mercury exceedances and placed on the Planning List due to selenium exceedance and missing core parameters: dissolved oxygen and *Escherichia coli*.**
			Mercury (total) µg/L	**0.6 (FC)**	**<0.2 - 1.0**	**1 of 7**	**Inconclusive**	
			Selenium (total) µg/L	**2 (A&Ww chronic)**	**<1 - 8**	**1 of 4 events**	**Inconclusive**	
Date Creek Cottonwood Creek - unnamed reach 15030203-008 AZ15030203-003 A&Ww, FBC, FC, AgL	ADEQ Ambient Monitoring Above Date Creek Ranch BWDAT019.44 100529	2002 - 2 full suites	No exceedances					
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC Inconclusive** **AgL Inconclusive**	**2002** **2 sampling events**	**No exceedances**					**Insufficient monitoring data to assess.**
Francis Creek headwaters - Burro Creek AZ15030202-012 A&Ww, FBC, FC, DWS, AgI, AgL Unique Water	ADEQ Ambient Monitoring Above Spencer Creek BWFRA001.73 100556	2002 - 2 full suites	No exceedances					
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC Inconclusive** **DWS Inconclusive** **AgI Inconclusive** **AgL Inconclusive**	**2002** **2 sampling events**	**No exceedances**					**Insufficient monitoring data to assess.**
Kirkland Creek Skull Valley - Santa Maria River AZ15030203-015 A&Ww, FBC, FC, AgI, AgL	ADEQ Ambient Monitoring Ritter's Ranch (Kirkland) BWKRK009.77 100408	2002 - 2 full suites	*Escherichia coli* CFU/100 mL	235 (FBC)	7 - 436	1 of 2		
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC Inconclusive** **AgI Inconclusive** **AgL Inconclusive**	**2002** **2 sampling events**	***Escherichia coli* CFU/100 mL**	**235 (FBC)**	**7 - 436**	**1 of 2 events (insufficient events)**	**Inconclusive**	**Insufficient monitoring data to assess. Placed on the Planning List due to *Escherichia coli* exceedance.**
Santa Maria River Bridle Wash - Date Creek AZ15030203-009 A&Ww, FC, FBC, AgI, AgL	ADEQ Fixed Station Network Below Highway 93 bridge BWSMR013.57 100399	1999 - 1 full suite 2000 - 4 full suites 2001 - 4 full suites 2002 - 5 full suites	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	2.7 - 9.5 (35 - 115%)	2 of 14		Low dissolved oxygen due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in final assessment.
			Escherichia coli CFU/100 mL	235 (FBC)	<2 - 390	1 of 14		

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
	Summary Row **A&Ww Attaining** **FC Attaining** **FBC Inconclusive** **AgI Attaining** **AgL Attaining**	**1999 - 2002** **14 sampling events**	***Escherichia coli*** **CFU/100 mL**	**235 (FBC)**	**<2 - 390**	**1 of 14 events (occurred in 2001)**	**Inconclusive**	**ADEQ collected 14 samples in 1998 - 2002. Assessed as "attaining some uses" and placed on the Planning List due to the *Escherichia coli* exceedance.**
Trout Creek Cow Creek - Knight Creek AZ15030201-014 A&Ww, FC, FBC, AgL	ADEQ Ambient Monitoring Above Divide Canyon BWTRT006.15 100670	2002 - 1 full suite	No exceedances					
	ADEQ Fixed Station Network Near Wikieup BWTRT001.79 100397	1999 - 3 full suites 2000 - 4 full suites 2001 - 4 full suites 2002 - 5 full suites	No exceedances					
	Summary Row **A&Ww Attaining** **FC Attaining** **FBC Attaining** **AgL Attaining**	**1999-2002** **17 sampling events**	**No exceedances**					**ADEQ collected 17 samples in 1999-2002. Assessed as "attaining all uses."**
Wilder Creek headwaters - Boulder Creek AZ15030202-007 A&Ww, FC, FBC (tributary rule)	ADEQ TMDL Program Site M Near Boulder Creek BWWLD000.27	2000 - 1 field, metals 2001 - 6 field, metals	No exceedances					
	Summary Row **A&Ww Inconclusive** **FC Inconclusive** **FBC Inconclusive**	**2000-2001** **7 sampling events**	**No exceedances**					**ADEQ collected 7 samples in 2000-2001 as part of the Boulder Creek TMDL. Assessed as "inconclusive" and placed on the Planning List due to missing core parameters: turbidity/SSC, *Escherichia coli*, dissolved cadmium, and total mercury.**

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
LAKES MONITORING DATA								
Alamo Lake AZL15030204-0040A A&Ww, FC, FBC, AgL	USFWS/Corps of Engineers Ambient Monitoring BWALA-1	1998 - 10 partial suites 1999 - 1 full + 7 partial suites 2000 - 4 full + 8 partial suites 2001 - 3 full + 9 partial suites 2002 - 3 full + 7 partial suites	Ammonia mg/L	varies by pH and temperature (A&Ww chronic)	<0.01 - 0.72	2 of 36		
			Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	2.7 - 14.5	4 of 47		
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL)	7.4 - 10.9	14 of 47		
	USFWS/Corps of Engineers Ambient Monitoring BWALA-2	1998 - 10 partial suites 1999 - 8 partial suites 2000 - 1 full + 11 partial suites 2001 - 3 full + 9 partial suites 2002 - 3 full + 7 partial suites	Ammonia mg/L	varies by pH and temperature (A&Ww chronic)	<0.01 - 0.69	1 of 36		
			Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	2.0 - 16.3	3 of 47		
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL)	7.1 - 10.9	11 of 47		
	USFWS/Corps of Engineers Ambient Monitoring BWALA-3	1998 - 10 partial suites 1999 - 8 partial suites 2000 - 1 full + 11 partial suites 2001 - 3 full + 9 partial suites 2002 - 3 full + 7 partial suites	Ammonia mg/L	varies by pH and temperature (A&Ww chronic)	<0.01 - 0.42	1 of 36		
			Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	2.0 - 14.7	2 of 47		
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL)	7.7 - 10.5	9 of 47		
	USFWS/Corps of Engineers Ambient Monitoring BWALA-4	1998 - 10 partial suites 1999 - 8 partial suites 2000 - 1 full + 11 partial suites 2001 - 1 full + 11 partial suites 2002 - 2 full + 8 partial suites	Ammonia mg/L	varies by pH and termperature (A&Ww chronic)	<0.01 - 0.6	2 of 36		
			Dissolved oxygen mg/L	>6.0 (90% saturation) (A&Ww)	1.7 - 16.4	2 of 46		
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL)	7.4 - 10.6	12 of 46		
	ADEQ Lakes Program BWALA - A (deepest) 101350	2002 - 2 field, 1 *Escherichia coli*	No exceedances					
	ADEQ Lakes Program BWALA - B (mid lake) 101351	2002 - 2 field, 1 *Escherichia coli*	No exceedances					

TABLE 5. BILL WILLIAMS WATERSHED -- 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	DESIGNATED USE SUPPORT	COMMENTS
	Summary Row A&Ww Impaired FC Impaired* FBC Impaired AgL Impaired	1998-2002 212 samples 54 sampling events	Ammonia mg/L	varies by pH and temperature (A&Ww chronic)	<0.01 - 0.72	6 of 144 samples 2 of 36 events	Impaired	US Fish and Wildlife collected 208 samples during 52 sample events in 1998-2002. ADEQ collected field measurements at two sites during 4 sampling events. Assessed as "impaired" due to ammonia exceedances, high pH, and mercury in fish tissue. *EPA placed this reach on the 2002 303(d) List for mercury in fish tissue. Once listed, the surface water cannot be delisted until a TMDL is complete or there are sufficient data collected to indicate that mercury in fish tissue is no longer a concern. A fish consumption advisory was issued in 2004. Placed on the Planning List due to missing core parameters: *Escherichia coli*, dissolved metals (cadmium, copper, and zinc), and total metals (copper and lead).
			Dissolved oxygen mg/L	> 6.0 (90% saturation (A&Ww)	1.7 - 15.3	11 of 190	Attaining	
			pH SU	6.5 - 9.0 (A&Ww, FBC, AgL)	7.4 - 10.9	46 of 189	Impaired	
Coors Lake AZL15030202-5000 A&Ww, FC, FBC	No water quality data	Data not shown No water quality data						
	Summary Row A&Ww Inconclusive FC Inconclusive FBC Inconclusive							Lake assessed as "inconclusive" and placed on the Planning List due to: 1. Insufficient monitoring. 2. A fish consumption advisory due to mercury in fish tissue, issued in 2004. (This may be evidence of narrative standards violations.)

TABLE 6. BILL WILLIAMS WATERSHED -- ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
BILL WILLIAMS WATERSHED -- STREAM ASSESSMENTS				
Big Sandy River Deluge Wash - Tule Wash 8 miles AZ15030201-011	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Category 3 — Inconclusive	On the Planning List due to: 1. Former turbidity standard exceedance (1 of 4 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring. 2. Missing core parameters: *Escherichia coli*, dissolved metals (cadmium, copper, and zinc) and total metals (copper, lead, and mercury).		
Big Sandy River Sycamore Creek - Burro Creek 14 miles AZ15030201-004	A&Ww Inconclusive FC Attaining FBC Attaining AgL Attaining Category 2 — Attaining Some Uses	On the Planning List due to chronic selenium exceedance (1 of 1 sampling event).		
Big Sandy River Rupley Wash - Alamo Lake North 10 miles AZ15030201-001	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Category 3 — Inconclusive	On the Planning List due to: 1. Low dissolved oxygen (2 of 7 samples). 2. Missing core parameters: *Escherichia coli*, dissolved metals (cadmium, copper, and zinc), and total metals (copper, lead, and mercury).		
Bill Williams River Point B - Colorado River 15 miles AZ15030204-001	A&Ww Inconclusive FC Inconclusive FBC Attaining AgL Inconclusive Category 2 — Attaining Some Uses	On the Planning List due to: 1. Former turbidity standard exceedance (1 of 8 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring. 2. Missing core parameters: total metals (copper, lead, and mercury).		
Boulder Creek unnamed wash at 34E41'14"/113E18'00" - Wilder Creek 14 miles AZ15030202-006B (Reach was split into coldwater and warmwater segments since the last assessment. No current data in 006A.)	A&Ww Impaired FC Attaining FBC Inconclusive AgI Inconclusive AgL Attaining Category 5 – Impaired	On the Planning List due to: 1. Acute and chronic copper exceedance (1 of 18 events, occurred in 2001). **2. Chronic zinc exceedance (1 of 19 events).** 3. Missing core parameters: total boron and *Escherichia coli*.	Add mercury to the 303(d) List due to chronic mercury exceedances (5 of 5 sampling events). Delist fluoride due to change in fluoride standards. No exceedances occurred under the new standard.	In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins.
Boulder Creek Wilder Creek - Copper Creek 3 miles AZ15030202-005A	A&Ww Impaired FC Inconclusive FBC Impaired AgI Inconclusive AgL Impaired Category 5 — Impaired	On the Planning List due to: 1. Chronic selenium exceedances (1 of 4 sampling events). 2. Missing core parameters: total boron and *Escherichia coli*. Remove beryllium from the Planning List. Standards were revised in 2002. No exceedance under the new standards.	Add mercury to the 2004 303(d) List for 3 of 3 chronic mercury exceedances. On the 303(d) List for arsenic, copper, and zinc. ADEQ is in the process of developing TMDLs for arsenic, copper, and zinc and expects to submit them to EPA for approval in 2004. Chronic arsenic exceedances in 4 of 30 sampling events, total arsenic exceedances (26 of 45 samples), chronic and acute copper exceedances (2 of 30 sampling events), and chronic and acute zinc exceedances (2 of 30 sampling events). **Note: Investigations indicate that arsenic impairs the entire reach, while copper and zinc impair the segment between Wilder Creek and Butte Creek, which is below the lower tailings pile.**	In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins. Ongoing coordination between the Bureau of Land Management , Arizona State Land Department, and private owners to conduct cleanup activities at all three sites.

TABLE 6. BILL WILLIAMS WATERSHED -- ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
Boulder Creek Copper Creek - Burro Creek 5 miles AZ15030202-005B	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Attaining Category 2 – Attaining Some Uses	On the Planning List due to: 1. Acute mercury exceedance (1 of 13 sampling events, occurred in 2002) and chronic mercury exceedance (1 of 1 sampling event). 2. Chronic selenium exceedance (1 of 4 sampling events). 3. Missing core parameters: total boron and *Escherichia coli.*		In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins.
Burro Creek Francis Creek - Boulder Creek 14 miles AZ15030202-008 Unique Water	A&Ww Inconclusive FC Attaining FBC Inconclusive AgL Attaining Category 2 — Attaining Some Uses	On Planning List due to: 1. Acute and chronic copper exceedance (1 of 17 sampling events, occurred in 2002). 2. Chronic mercury exceedance(1 of 1 sampling event,). 3. Missing core parameters: dissolved oxygen and *Escherichia coli.* Remove turbidity from the Planning List. Current monitoring indicates 0 exceedances in 4 samples.		
Burro Creek Boulder Creek - Black Canyon 17 miles AZ15030202-004	A&Ww Impaired FC Attaining FBC Attaining AgL Attaining Category 5 – Impaired		Add mercury to the 303(d) List due to chronic mercury exceedances (3 of 3 sampling events).	In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins.
Butte Creek headwaters - Boulder Creek 3 miles AZ15030202-163	**A&Ww Impaired** FC Inconclusive FBC Inconclusive **Category 5 – Impaired** AgI and AgL designated uses no longer apply to this reach due to changes in the tributary rule.	On Planning List due to: 1. Chronic selenium exceedances (1 of 4 sampling events). 2. Missing core parameters: dissolved oxygen and *Escherichia coli*.	**Add mercury to the 303(d) List due to chronic mercury exceedances (2 of 2 sampling events).**	In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins.
Date Creek Cottonwood Creek - unnamed tributary 15030203-008 35 miles AZ15030203-003	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Category 3 – Inconclusive	On the Planning List due to insufficient monitoring data to assess (2 samples).		
Francis Creek headwaters - Burro Creek 24 miles AZ15030202-012 Unique Water	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Category 3 – Inconclusive	On the Planning List due to: 1. Insufficient monitoring data to assess (2 samples). 2. Added in 2002 due to exceedance of former turbidity standard (2 of 12 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.		
Kirkland Creek Skull Valley - Santa Maria River 23 miles AZ15030203-015	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Category 3 – Inconclusive	On the Planning List due to: 1. Insufficient monitoring data to assess (2 samples). 2. *Escherichia coli* exceedance (1 of 2 sampling events).		

TABLE 6. BILL WILLIAMS WATERSHED -- ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
Santa Maria River Bridle Wash - Date Creek 25 miles AZ15030203-009	A&Ww Attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Category 2 – Attaining Some Uses	On the Planning List due to *Escherichia coli* exceedance (1 of 14 events, occurred in 2001).		
Trout Creek Cow Creek - Knight Creek 32 miles AZ15030201-014	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Category 1 — Attaining All Uses			
Wilder Creek headwaters - Boulder Creek 15 miles AZ15030202-007	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 — Inconclusive	On the Planning List due to missing core parameters: *Escherichia coli*, dissolved cadmium, total mercury, and turbidity/SSC.		
BILL WILLIAMS WATERSHED -- LAKE ASSESSMENTS				
Alamo Lake 1,414 acres AZL15030204-0040A	A&Ww Impaired FC Impaired FBC Impaired AgL Impaired Category 5 — Impaired Trophic Status -- Eutrophic - Hypereutrophic	On the Planning List due to missing core parameters: *Escherichia coli*, dissolved metals (cadmium, copper, and zinc), and total metals (copper and lead).	**Add ammonia to the 303(d) List due to chronic ammonia exceedances (2 of 36 sampling events).** On 303(d) List (since 1996) due to high pH. Exceeded standards in 46 of 189 samples. EPA placed this reach on the 2002 303(d) List because of high concentrations of mercury in fish tissue. EPA's listing was based on a violation of narrative water quality standards. Arizona's Impaired Waters Identification Rule requires adoption of narrative implementation procedures before the state may use evidence of narrative violations in a listing decision, but once listed **the surface water cannot be delisted until a TMDL is complete or sufficient data are collected to indicate that mercury in fish tissue is no longer a concern.** ADEQ is currently collecting data and investigating potential mercury sources in support of completing a TMDL. **A fish consumption advisory was issued in 2004.** Delist dissolved oxygen. Attaining uses with only 11 exceedances in 190 samples. Delist sulfide. New sulfide standards were adopted in 2002. No exceedances of the new standard.	Mercury does not stay in an aqueous state and bioaccumulates rapidly. Additionally, most laboratory reporting limits are not low enough to assess chronic mercury standards; therefore, lack of exceedances in the water column does not provide sufficient information about mercury problems in the lake. In 2003, ADEQ began a watershed-wide TMDL investigation for sources of mercury impacting Alamo Lake. This included Burro Creek, Boulder Creek, Big Sandy River, and the Santa Maria sub-basins.
Coors Lake 229 acres AZL15030202-5000	**A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 – Inconclusive**	**On the Planning List due to a fish consumption advisory issued in 2004. This may be evidence of a narrative standards violation.**		**In 2002, EPA placed on the 303(d) List all waters with fish consumption advisories, citing a narrative standard violation. ADEQ anticipates EPA will take the same action and place this lake on the 2004 303(d) List.**